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NEW GENERA AND NEW SPECIES OF COLPURINI (INSECTA: HETEROPTERA: COREIDAE) FROM PHILIPPINES, BORNEO, AND MALAYA

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ABSTRACT

Three new genera of Colpurini (Coreidae) are described, each containing a single undescribed species: *Kinabaluhygia sabah* from Sabah (Borneo), *Eludohygia parvioculata* from Malaya, and *Baumannhygia insulata* from Mindanao (Philippines). Adult dorsal habitus for each are illustrated, and drawings of the male genital capsule are provided.

INTRODUCTION

The tribe Colpurini is represented in the South Pacific Islands by a number of species that show various bizarre morphological specialization. The most striking features of these genera are the remarkable reduction of the hemelytra, the development of the head including the eyes, and the high degree of endemicity. The three genera described at this time complement a series of papers prepared by the author to clarify the systematics of the tribe (Brailovsky 1990, 1993*a*, 1993*b*, 1993*c*; Brailovsky et al., 1992; Brailovsky and Ortega Leon, 1994).

The following abbreviations are used for the institutions cited in this paper: BMNH, The Natural History Museum, London, United Kingdom; FMNH, Field Museum of Natural History, Chicago, Illinois; QMBA, Queensland Museum, Brisbane, Australia; UNAM, Colección Entomológica del Instituto de Biología, Universidad Nacional Autónoma de México, México D. F., Mexico.

SYSTEMATIC ENTOMOLOGY

Kinabaluhygia, **new genus**
(Fig. 1–4)

Diagnosis.—*Kinabaluhygia,* n. gen., is the only genus within the tribe Colpurini that exhibits a conspicuous globosity on the side of the head in front of and close to the eyes, with the apex truncated.

This new genus closely resembles *Wygohygia* Brailovsky (1993) in having the eyes small and protruding on short stalks, head quadrate, ocelli present, buccula with short anterior projection, postocular tubercle protuberant, tylus unarmed, scutellum flattened, and plica and fissura on abdominal sternite VII of the female.

It differs from other Colpurini in a number of important characteristics: sides of head in front of and close to eyes conspicuously globose, raised above eyes and apically truncated; hemelytra brachypterous, with hemelytral membrane reduced; posterior lobe of metathoracic peritreme small and globose; callar region uniformly and slightly convex; posterior pronotal lobe near middle third flat; and antenniferous tubercle unarmed. In *Wygohygia,* the sides of head in front of eyes

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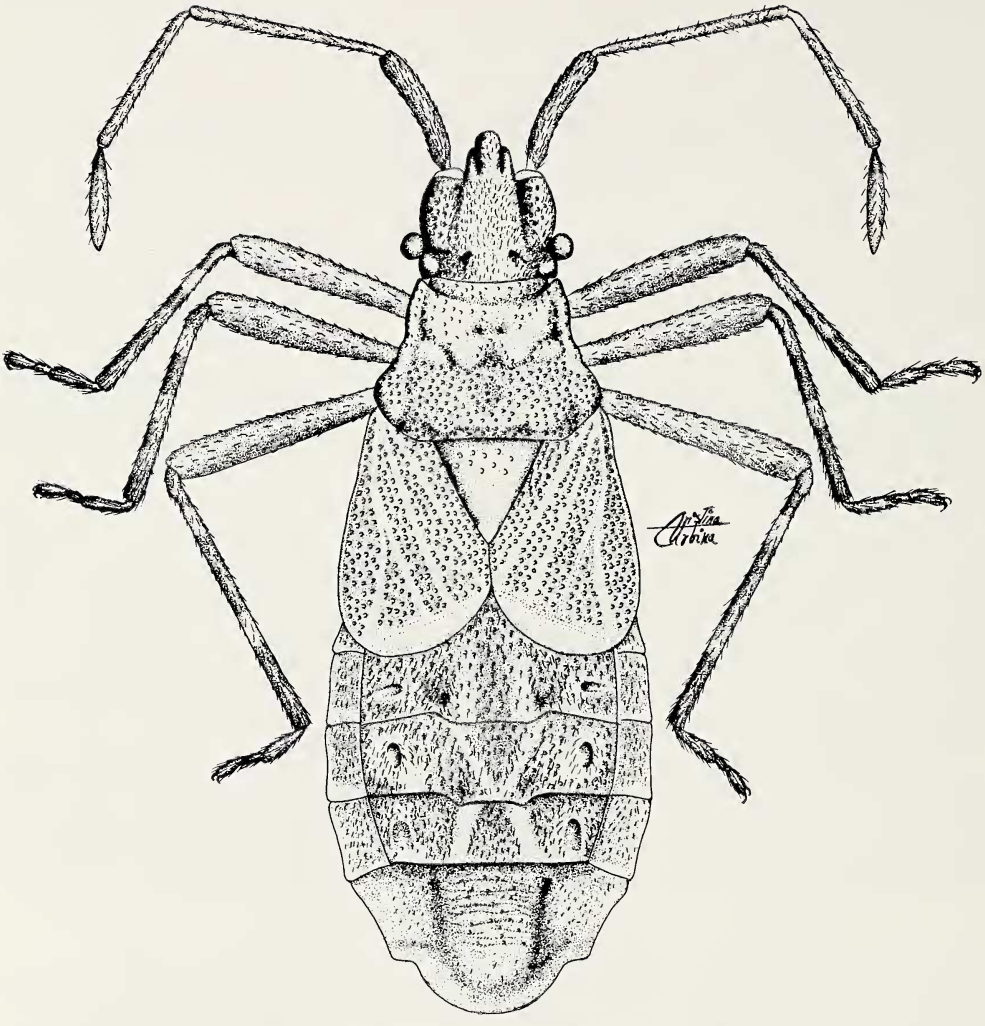

Fig. 1.—*Kinabaluhygia sabah* Brailovsky, male.

are laterally globose, never raised above eyes, and apically projected on a long and robust lobe; the hemelytra are submacropterous with the hemelytral membrane well developed with few veins furcate; posterior lobe of the metathoracic peritreme small and sharp, callar region transversely convex and separated along midline by slightly longitudinal depression; posterior pronotal lobe near middle third with two lateral and irregular convexities separated by longitudinal depression; antenniferous tubercle armed with a long robust spine.

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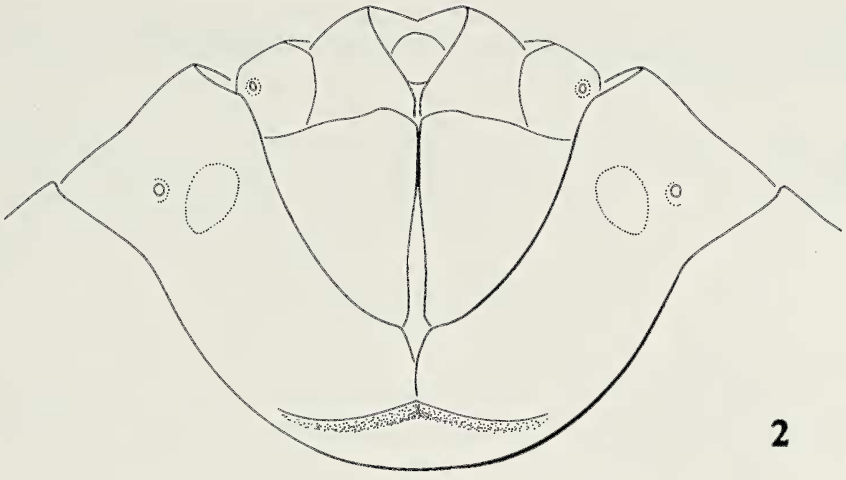
Fig. 2–6.—Colpurini. Fig. 2–4, *Kinabaluhygia sabah* Brailovsky; 2, female genital plates, caudal view; 3, female genital plates, lateral view; 4, male genital capsule, caudal view; 5, *Baumannhygia insulata* Brailovsky, male genital capsule, caudal view; 6, *Eludohygia parvioculata* Brailovsky, male genital capsule, caudal view.



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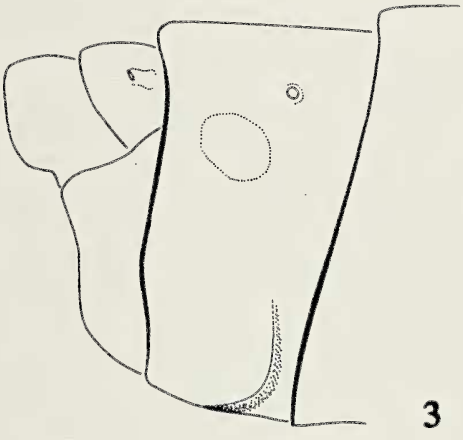

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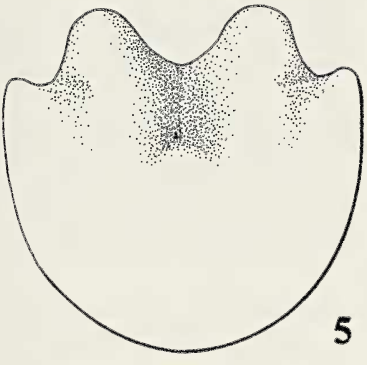

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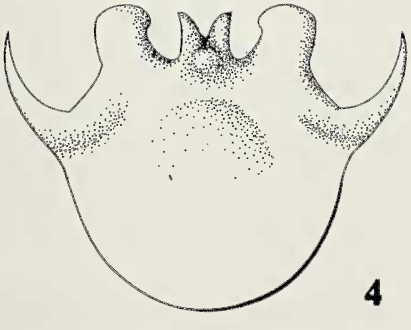

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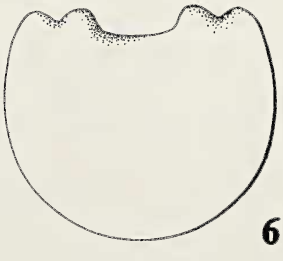

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Wygohygia, known only from New Guinea, is much more robust and longer than 12 mm (female; male unknown) and *Kinabaluhygia,* recorded from Borneo, is shorter, less than 10.50 mm.

Description.—Head: quadrate, wider than long, sunken between lateral lobes; tylus unarmed, apically globose, extending anteriorly to the jugae and more raised in lateral view; jugae unarmed; sides of head in front of and close to eyes globose, elevated, conspicuously convex, and raised above eyes; antennal segment I robust, thickest, slightly curved outward, and shorter than head; segments II and III cylindrical and slender; segment IV fusiform; segment II longest; segment IV the shorter; segment I longer than III (male) or shorter than III (female); ocelli reduced, not elevated, and difficult to see; preocellar pit weakly deep; eyes small, pimple-like, protruding on short stalks; postocular tubercles protuberant; vertex and frons sunken and flattened; buccula rounded, short, elevated, not projecting beyond antenniferous tubercle, with a short anterior projection; rostrum long, reaching posterior third of abdominal sternite V (male) or anterior third of VI (female); rostral segment I reaching posterior gular region; mandibular plate absent.

Thorax: pronotum wider than long, trapeziform, nondeclivent; collar wide; frontal angles projecting forward as rounded thickened lobes; humeral angles rounded, not exposed and slightly elevated; anterolateral borders weak and obliquely straight; posterolateral and posterior borders straight; callar region slightly convex; posterior margin with two lateral convexities. Anterior lobe of metathoracic peritreme reniform, posterior lobe small, subglobose.

Legs: femora unarmed; tibiae sulcate.

Scutellum: longer than wide (female) or as long as wide (male); triangular, with subacute apex; disc flat.

Hemelytra: brachypterous, reaching median third of abdominal segment IV; clavus and corium fused into a coriaceous pad, and the wings meeting each other along the midline; hemelytral membrane reduced.

Abdomen: connexival segments strongly elevated, higher than abdominal segments; angle of connexival complete; abdominal sternites with the medial furrow extending to posterior border of sternite V.

Integument: body surface mostly shining, with short decumbent, silvery bristle-like setae, intermixed with long, erect setae located on the abdominal sterna. Head, pronotum, scutellum, hemelytra, thorax, abdomen, and exposed parts of genital segments punctate. Head with frons and vertex and connexival segments practically smooth; antennal segments and legs covered by long and short setae.

Male genitalia: genital capsule: posteroventral border with lateral diverging spine-like projections, medial process bilobed, and with submedian truncated lobes (Fig. 4).

Female genitalia: abdominal sternite VII with plica and fissura; plica triangular reaching median third of sternite VII; gonocoxae I squarish, large; paratergite VIII short, subtriangular, with spiracle visible; paratergite IX square, longer than paratergite VIII (Fig. 2, 3).

Distribution.—Known only from Borneo.

Etymology.—Named for its occurrence on Mt. Kinabalu (Borneo). Gender feminine.

Type Species.—*Kinabaluhygia sabah,* n. sp.

Kinabaluhygia sabah, **new species**
(Fig. 1–4)

Description.—Dorsal coloration, male: head, pronotum, and scutellum bright black with pale yellow antenniferous tubercle and apex of scutellum; antennal segment I black, segments II and III dark red with basal and apical joint yellow, and IV yellow-orange with basal joint dark red; clavus, corium, connexival segments, and abdominal segments bright orange-chestnut tinged with red, except the posterior margin of the connexival II to VII ocher; hemelytral membrane dirty chestnut-orange. Ventral coloration, male: head and thorax bright black tinged with red on acetabulae; rostral segments I to IV, and anterior and posterior lobes of metathoracic peritreme bright pale orange with chestnut reflections; coxae dark chestnut-orange; trochanters yellow; femora bright dark red with basal joint yellow; tibiae bright dark red with one or two pale yellow-orange rings; tarsi bright yellow-orange; abdominal sternites and pleural margins bright brownish red except the posterior angle of pleural margins III to VII ocher; genital capsule black with bright brownish red reflections.

Color, female: similar to male. Legs: tarsal segments I and III dark red with chestnut-orange reflections; segment II mostly bright yellow-orange. Genital plates: gonocoxae I black with red reflections except the external upper angle creamy yellow; paratergite VIII and IX black with red reflections.

Measurements.—Male, female (mm). Head length 1.72, 1.72; width across eyes 1.88, 1.88; interocular space 1.32, 1.32; interocellar space 0.48, 0.48; preocular distance 1.30, 1.34; length antennal segments: I, 1.52, 1.41; II, 2.16, 2.20; III, 1.48, 1.44; IV, 1.32, 1.30. Pronotum: total length 1.72, 1.92; width across frontal angles 1.68, 1.64; width across humeral angles 2.64, 2.60. Scutellar length 1.04, 1.02; width 1.04, 1.00. Total body length 10.10, 10.40.

Type Specimens.—Holotype, male (QMBA): BORNEO, SABAH, Park Headquarters, Mt. Kinabalu, 5000 ft, 24–26 December 1975, G. B. and S. R. Monteith. Paratype, one female (UNAM): same data as holotype.

Etymology.—Named after the type locality.

Eludohygia, **new genus**
(Fig. 6, 7)

Diagnosis.—*Eludohygia,* n. gen., is a medium-sized striking insect easily distinguished from all other Colpurini by the pronounced dorsal convexity of the head, the minute eyes occupying only a small portion of the head surface (Fig. 7), tylus conspicuously enlarged, postocular tubercle weakly developed, buccula entirely without external teeth and femora armed with two rows of spines.

Description.—Male. Head: pentagonal, longer than wide across eyes, remarkably convex dorsally; tylus conspicuously enlarged, unarmed, apically globose, extending anteriorly to the jugae, and more raised in lateral view; jugae unarmed, thickened and extended to middle third of tylus; antenniferous tubercle unarmed; sides of head in front of eyes unarmed and straight; antennal segment I robust, thickened, slightly curved outward and shorter than head; segments II to IV mutilated; ocelli absent; preocellar pit deep; eyes minute, occupying only a small portion of the head surface; postocular tubercles developed but not protuberant; buccula rounded, short, elevated, not projecting beyond antenniferous tubercles, without teeth; rostrum long, reaching posterior third of abdominal sternite VI; mandibular plate absent.

Thorax: pronotum trapeziform, wider than long, nondeclivent; collar wide; frontal angles produced forward as rounded and globosus lobes; humeral angles rounded, not exposed; anterolateral borders obliquely straight, emarginated, and raised above pronotal disc; posterolateral border straight and posterior border slightly concave; pronotal disc with anterior half slightly concave and posterior half flat. Anterior lobe of metathoracic peritreme reniform, posterior lobe sharp, small.

Legs: femora armed with two rows of robust spines along ventral surface; tibiae with sulcus difficult to see.

Scutellum: wider than long, triangular, with sharp apex; disc flat.

Hemelytra: brachypterous, reaching posterior third of abdominal segment III; clavus and corium fused into a coriaceous pad and the wings meeting each other along the midline; hemelytral membrane reduced.

Abdomen: connexival segments strongly elevated, with posterior angle complete, not produced into spines; abdominal sternites with the medial furrow extending to posterior third of sternite V.

Integument: body surface mostly dull, with head, anterior third of pronotum, thorax, and abdomen shining. Head, thorax, abdomen, and genital capsule strongly punctate; pronotum, scutellum, hemelytra, dorsal abdominal segments, and connexival with scattered punctures. Body with short decumbent silvery bristle-like setae, intermixed with long erect setae located on the abdominal sterna and legs.

Male genitalia: genital capsule: posteroventral border complete, laterally enclosed by two medium-sized lobes (Fig. 6).

Female. Unknown.

Distribution.—Known only from Malaya.

Etymology.—From the latin *eludo* = escape, avoid, or elude. Gender feminine.

Type Species.—*Eludohygia parvioculata,* n. sp.

Eludohygia parvioculata, **new species**
(Fig. 6, 7)

Description.—Male. Dorsal coloration: head bright black; antennal segment I pale chestnut-orange; pronotum with anterior half shining black and posterior half dull black with dark red reflections;

anterolateral margin chestnut-orange; scutellum, hemelytra, connexival segments and dorsal abdominal segments dark red with posterior border of connexival ocher-yellow; hemelytral membrane dark chestnut-orange. Ventral coloration: head bright black with dark red reflections; buccula (except basal third dark red) and rostral segments I to IV pale chestnut-orange-yellow; thorax and abdominal sternite bright orange-red with following areas pale chestnut-yellow-orange: anterior and posterior lobe of metathoracic peritreme, posterior margin of metapleura, acetabulae, posterior border of pleural segments III to VII, and legs.

Measurements.—Male (mm). Head length 1.84; width across eyes 1.68; interocular space 1.20; preocular distance 1.36; length antennal segment: I, 1.28 (segments II–IV mutilated). Pronotum: total length 1.60, width across frontal angles 1.76; width across humeral angles 2.76. Scutellar length 1.00; width 1.32. Total body length 10.00.

Type Specimen.—Holotype, male (BMNH): MALAYA, BUKIT PALAS, Cameron Highlands, 5400 ft, 5 May 1939, N. C. E. Miller.

Etymology.—Referring to the appearance of the eyes in lateral view.

Baumannhygia, **new genus**
(Fig. 5, 8)

Diagnosis.—The reduction of wings, the membrane absent, the prominent postocular tubercle, the ocelli absent, the unarmed legs, and tibial sulcus difficult to see might suggest a relationship with *Grosshygioides* Brailovsky (1993). In *Baumannhygia,* n. gen., known only from Philippine Republic, the antenniferous tubercles are armed, the head slightly convex dorsally, mandibular plate unarmed, scutellar disc and hemelytra weakly punctate, hemelytra micropterous, and the pronotal disc flat. In *Grosshygioides,* described from Australia, the antenniferous tubercles are unarmed, the dorsal head flat, mandibular plate armed, scutellar disc and hemelytra strongly punctate, hemelytra staphylinoid, and the pronotal disc never flat.

Grosshygia Brailovsky (1993) like *Baumannhygia,* has the antenniferous tubercle armed, the mandibular plate unarmed, the eyes small and globular, postocular tubercle protuberant, pronotal disc nondeclivent, legs unarmed, tibiae with sulcus difficult to see, hemelytra micropterous, and the membrane absent. The two genera can be separated by the following combination of characters. In *Baumannhygia,* the head in dorsal view is slightly convex, buccula with small and blunt anterior projection, and callar region, including the pronotal and scutellar disc, flat. In *Grosshygia,* known from Australia, the head in dorsal view is conspicuously convex and raised above eyes, buccula rounded without teeth, callar region nodulose, and scutellar disc raised and convexly rounded.

Description.—Male. Head: quadrangular, wider than long, and dorsally slightly convex; tylus unarmed, apically globose, extending anteriorly to the jugae, and more raised in lateral view; jugae unarmed, thickened, and shorter than tylus; antenniferous tubercle armed with long robust spine; side of head in front of eyes unarmed and apically divergent; antennal segment I robust, thickest, slightly curved outward and shorter than head; segments II and III cylindrical and slender; segment IV fusiform; segment II longest; segment I longer than III; segment III subequal to IV; ocelli absent; preocellar pit deep; eyes small, globular; postocular tubercle protuberant; buccula rounded, short, not projecting beyond antenniferous tubercle, with small and blunt anterior projection; rostrum long, reaching posterior third of abdominal sternite V; mandibular plate absent.

Thorax: pronotum trapeziform, wider than long, nondeclivent; collar wide; frontal angles produced forward as rounded and globosus lobes; humeral angles rounded, not expanded; anterolateral borders obliquely straight and raised above pronotal disc; posterolateral borders straight, and posterior border slightly concave; pronotal disc flat. Anterior lobe of metathoracic peritreme reniform, posterior lobe sharp, small.

Legs: femora unarmed; tibiae with a vague longitudinal sulcus.

Scutellum: wider than long, triangular, with sharp apex; disc flat.

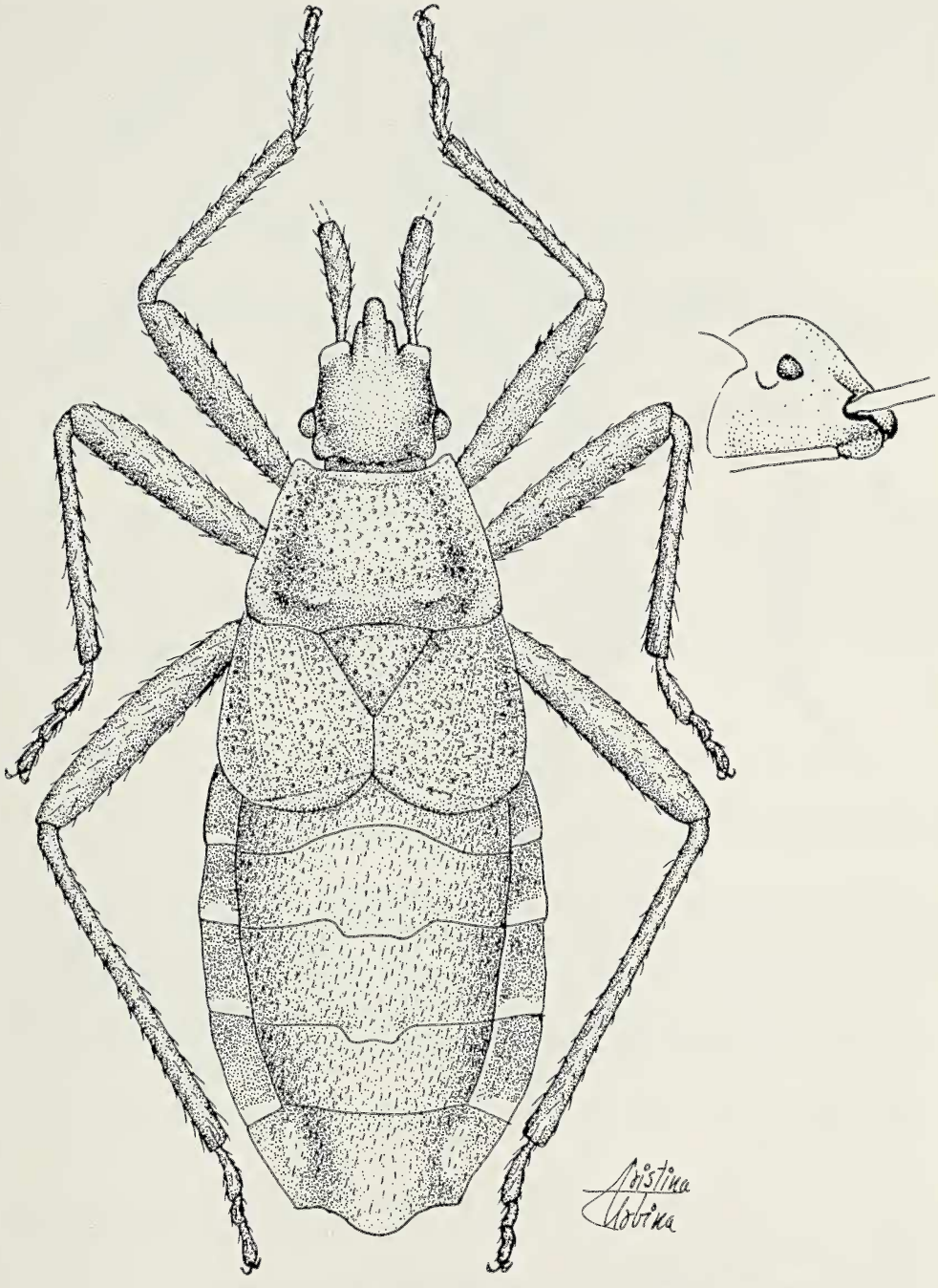

Fig. 7.—*Eludohygia parvioculata* Brailovsky, male.

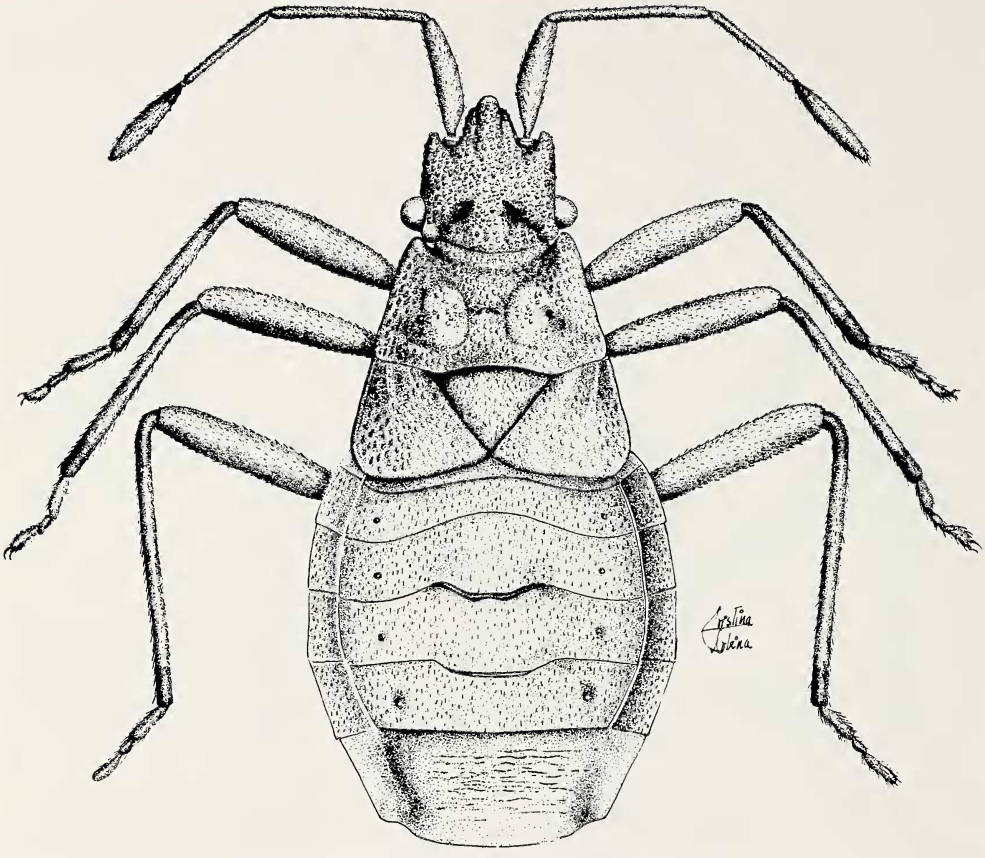

Fig. 8.—*Baumannhygia insulata* Brailovsky, male.

Hemelytra: micropterous reaching posterior third of abdominal segment II; wings reduced to small pads, separated from each other; clavus and corium fused; membrane absent.

Abdomen: connexival segments strongly elevated, higher than abdominal segments; angle of connexival complete; abdominal sternites with the medial furrow extending to middle third of sternite V.

Integument: mostly shining, with hemelytra, connexival segments, and dorsal abdominal segments dull. Head, thorax, abdomen, and exposed parts of genital segments strongly punctate; pronotum, scutellum, hemelytra, and connexival segments weakly punctate. Body with short decumbent silvery bristle-like hairs, intermixed with long erect setae located on the abdominal sternites, legs, and antennal segments.

Male genitalia: genital capsule: posteroventral edge with two large and robust lobes, with deep V-shaped notch (Fig. 5).

Female. Unknown.

Distribution.—Known only from the Philippine Republic.

Etymology.—I am please to name this new genus for Dr. Richard W. Baumann, distinguished American plecopterist. Gender feminine.

Type Species.—Baumannhygia insulata, n. sp.

Baumannhygia insulata, **new species**
(Fig. 5, 8)

Description.—Male. Dorsal coloration: head bright black; antennal segment I black, II and III dark red, and IV yellow-ocher with basal joint dark red; pronotum, scutellum, and hemelytra bright black

with dark red reflections; connexival segments dull black with dark red reflections, except the posterior margin, and dorsal abdominal segments dark red. Ventral coloration: bright black with following areas bright brownish red: acetabulae, metapleura, abdominal sternite III to VII, and genital capsule; rostral segments I to IV bright orange-yellow; coxae bright red-brown; trochanters bright orange-yellow; femora dark red with basal joint bright orange-yellow; tibiae yellow with basal and apical joint dark red; tarsi pale chestnut-orange; anterior and posterior lobe of metathoracic peritreme dirty orange-yellow; pleural margin of abdominal sternite III to VII dark red with posterior border ocher-yellow.

Measurements.—Male (mm). Head length 1.78; width across eyes 1.96; interocular space 1.30; interocellar space 0.76; preocular distance 1.32; length antennal segments: I, 1.48; II, 204; III, 1.42; IV, 1.42. Pronotum: total length 1.48; width across frontal angle 1.80 mm; width across humeral angle 2.64. Scutellar length 0.92; width 1.08. Total body length 9.50.

Type Specimens.—Holotype, male (FMNH): PHILIPPINE REPUBLIC, DAVAO PROVINCE, Mindanao (Calian), 31 December (without year), C. S. Clagg. Paratype, one male (UNAM): PHILIPPINE REPUBLIC, DAVAO PROVINCE, Mindanao (Calian), 11 July (without year), C. S. Clagg.

Etymology.—This species is named for its island distribution.

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LITERATURE CITED

BRAILOVSKY, H. 1990. Three new species of Indo-Pacific Colpurini (Hemiptera: Heteroptera: Coreidae). Pan-Pacific Entomologist, 66:292–300.

———. 1993*a*. New genera and new species of Colpurini (Heteroptera: Coreidae) from the Fiji Islands and New Guinea). Proceedings of the Entomological Society of Washington, 95:435–448.

———. 1993*b*. New genera and new species of micropterous Colpurini from Buru Islands and New Guinea (Heteroptera: Coreidae). Pan-Pacific Entomologist, 69:281–289.

———. 1993*c*. A revision of the tribe Colpurini from Australia (Hemiptera–Heteroptera–Coreidae). Memoirs of the Queensland Museum, 34:35–60.

BRAILOVSKY, H., AND G. ORTEGA LEON. 1994. Three new genera and six new species of Colpurini (Heteroptera: Coreidae) from New Guinea. Proceedings of the Entomological Society of Washington, 95:500–515.

BRAILOVSKY, H., E. BARRERA, AND W. LOPEZ-FORMENT. 1992. Revision of the genus *Tachycolpura* Breddin (Hemiptera: Heteroptera: Coreidae: Colpurini). Pan-Pacific Entomologist, 68:122–132.